Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Interconnection Between	)	CC Docket 95-185
Local Exchange Carriers	)	
And Commercial Mobile	)	
Radio Service Providers	)	

JOINT INITIAL COMMENTS OF SPRINT SPECTRUM AND AMERICAN PERSONAL COMMUNICATIONS

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SUMMARY

PCS cannot hope to challenge the local exchange monopoly if interconnection cannot be accomplished on effective and fair terms. The current system of "private negotiations" has resulted only in starkly asymmetrical agreements in which local exchange carriers ("LECs") extract monopoly rents from commercial mobile radio service ("CMRS") providers. The ultimate loss under the current system is suffered by the consumer, who must bear above-market prices without the benefit of fair and spirited competition. An economically rational decision here will permit PCS licensees to offer price-competitive services in the residential and business markets for the benefit of all consumers. A decision favoring the status quo would help perpetuate a 1930s-era local exchange monopoly and consign PCS providers to the ranks of mere "add-on" mobile services.

Sprint Spectrum and American Personal Communications strongly urge the Commission to adopt a bill-and-keep principle for LEC-to-CMRS interconnection. Bill and keep is the sole rational choice for an effective interim solution:

- LECs' own data demonstrate that the average cost of carrying traffic is only $0.002 per minute. The cost of adopting, implementing and administering a cost-measurement regime likely would approach the very costs it seeks to measure. Bill and keep thus is the economically efficient alternative.

- PCS-to-LEC traffic patterns, unlike past cellular patterns, have the potential to be roughly in balance — APC's own traffic pattern with Bell Atlantic approaches 50-50 even under its current interconnection agreement. Accordingly, bill and keep is an effective proxy for the payments that would be required under a measured plan.

- Because LECs can recover their costs from their own subscribers (and these costs are very small in any event), LECs would not be harmed by the implementation of a bill-and-keep standard for interconnection.

- Bill and keep will eliminate above-market interconnection costs, which are a factor of production that needlessly inflates the cost of goods and services. Bill and keep thus will foster increased consumer welfare throughout the economy.

Sprint Spectrum and APC also urge the Commission to extend the bill-and-keep principle to transport rather than limiting it, as proposed, to end-office traffic. The cost of constructing and maintaining dedicated interconnection facilities should be shared equally among the LEC and the CMRS provider.

These comments also demonstrate that the 1993 Budget Act clearly vests the Commission with authority to establish a national CMRS interconnection policy. We also offer comment on other alternative proposals offered in the *Notice* in this docket and note their practical and substantive difficulties. The alternatives considered by the *Notice* are important only for their demonstration that bill and keep is the only rational solution for interim LEC-CMRS interconnection.

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I. GENERAL COMMENTS

The Commission's resolution of the issues in this docket will be its single most important wireless telecommunications decision since it allocated spectrum for personal communications services ("PCS"). In creating PCS, the Commission acted to foster competition — not only to existing wireless services but to the telephone local exchange monopoly.[1/] PCS cannot play a role in challenging any part of the wireline monopoly unless PCS can interconnect with the local loop on competitive, yet fair, terms. An economically rational decision here will permit PCS licensees to offer price-competitive services in the residential and business markets for the benefit of all consumers. A decision favoring the status quo will help perpetuate a 1930s-era local exchange monopoly and

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[1/] In establishing PCS, the Commission properly resisted the arguments of cellular carriers and others who advocated policies that would have minimized the ability of PCS to compete with LECs in providing voice and data telephony services (including limiting PCS to too-small spectrum blocks). *See* Amendment of the Commission's Rules to Establish New Personal Communications Services, 8 F.C.C. Rcd. 7700 (1993), *modified*, 9 F.C.C. Rcd. 4957 (1994), *further modified*, 9 F.C.C. Rcd. 4441 (1994), *rev'd on other grounds sub nom.* Cincinnati Bell Tel. Co. v. Federal Communications Comm'n, 69 F.3d 752 (6th Cir. 1995).

consign all commercial mobile radio service ("CMRS") providers to the ranks of mere "add-on" mobile services and keep them from competing in the mainstream telephony market.

Sprint Spectrum[2/] and American Personal Communications[3/] are well suited to address the issues confronting the Commission and have a profound interest in their outcome. Directly or through its affiliates, Sprint Spectrum currently has the right to provide PCS service in areas populated by more than 180 million Americans; it intends to expand this extensive service footprint throughout the United States through acquisitions and affiliations. APC was the first licensee in the United States to offer both experimental and commercial PCS services; its launch of PCS service under the Sprint Spectrum name in November 1995 and its years-long course of research and development has given it keen insights into the behavior of American consumers and the potential for the PCS market in the United States.

Among the crucially important insights provided by APC's commercial service (which has far exceeded even APC's own expectations) is that consumers use PCS very differently than they have used mobile services in the past. In contrast to cellular, in which some 94 percent of traffic exchanged with the local telephone carrier is claimed to run from cellular phones to the local loop,[4/] APC's traffic tends to be roughly balanced between PCS calls to the local exchange carrier ("LEC") and wireline calls to PCS subscribers — the APC-Bell

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[2/] Sprint Spectrum L.P. ("Sprint Spectrum"), formerly the Sprint Telecommunications Venture, is a joint venture formed by subsidiaries of Sprint Corporation, Tele-Communications, Inc., Comcast Corporation, and Cox Communications, Inc. Sprint Spectrum was formed to provide nationwide wireless competitive telecommunications services. Sprint Spectrum will offer PCS services through WirelessCo, L.P. and PhillieCo, L.P.

[3/] American PCS, L.P. d/b/a American Personal Communications ("APC").

[4/] *See* Letter from Alan Ciamporcero, Vice President, Pacific Telesis, to Michele Farquhar, Chief, Wireless Telecommunications Bureau, December 7, 1995.

Atlantic traffic pattern is not 94-6, but roughly 50-50.[5/] This experience demonstrates that the LEC-CMRS relationship has the potential to result in an evenly divided traffic flow.

A second insight from APC's launch of PCS service is perhaps even more relevant to the Commission's inquiry here: Despite the general parity of incoming and outgoing PCS traffic, Bell Atlantic still has used its monopoly control over the bottleneck of the Washington/Baltimore local exchange to require APC to pay Bell Atlantic to terminate all calls on the Bell Atlantic network at a rate that would prevent APC from competing in the local exchange, while Bell Atlantic pays APC *nothing* to terminate calls on the APC network.[6/] Had APC not agreed to these terms on an interim basis, it could not have launched its service at all. This arrangement fails to reflect the true economic value of the communication for which charges are being levied. Even though a Bell Atlantic landline customer derives as much benefit from being able to make a connection to an APC customer

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[5/] *See* Separate Comments of APC, p. 2 (traffic flow of about 42-58). This pattern results from several factors, including (1) PCS subscribers' willingness to use a dependable PCS phone as an extension of, but not yet a replacement for, their home or business phone; (2) subscribers' willingness to give out their telephone numbers because of APC's policy of not charging for the first minute of incoming calls; (3) APC's integrated voice-mail system, which permits all calls to be terminated regardless of whether a subscriber's handset is on or busy; (4) APC's provision of integrated "caller ID" service, which permits subscribers to know the identity of a caller before determining whether to answer; and (5) technical factors including longer battery life, which removes any impediment to subscribers simply leaving their phone on all day, and digital privacy, which provides the security necessary for subscribers to comfortably use a wireless phone for private conversations.

[6/] *See* Appendix 1 to Separate Comments of American Personal Communications, being filed concurrently herewith. We find it interesting that Bell Atlantic has filed a $3.5 billion suit against AT&T alleging that AT&T has monopolized the switch and caller identification market, claiming that "we cannot use [AT&T equipment] in a way that lets us provide the best services to our customers," a complaint that would ring just as true if applied to Bell Atlantic's own refusal to provide adequate access to its bottleneck facilities. *See Bell Atlantic, DSC Communications Sue AT&T For $3.5 Billion Over Switches*, COMMUNICATIONS DAILY, Feb. 16, 1995, at 1.

as the APC customer derives from being able to call a Bell Atlantic customer, the APC customer alone bears the cost of call termination. There is no reason in logic or economic efficiency to explain this asymmetry, which clearly is a product of monopoly power: The incumbent LEC knows that it can extract a premium for interconnection to its exchange, and the asymmetric system is one way in which it obtains that premium.[7/]

The Commission must intervene. It must do so effectively and swiftly. It should adopt "bill and keep" as an interim solution and mandate that the costs of dedicated interconnection facilities be shared equally between CMRS providers and LECs. A system of bill and keep is the sole realistic interim solution. It will accomplish the Commission's goals of fostering competition, establishing an interconnection-rate system that is simple to implement and administer, and encouraging the development of a "network of networks." This system also properly reflects the co-carrier status of CMRS providers, which should not be required to compensate LECs for services they perform in return without compensation.[8/] A system of bill and keep, moreover, fosters an equitable and economically efficient sharing

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[7/] The European Commission has made a parallel recognition. In a 1994 study, the EC recognized that "monopoly power of incumbent [telecommunications operators]" will result in a market in which "interconnection prices are likely to be too high relative to prices that would emerge under competitive conditions." J. Arnbak, B. Mitchell, W. Neu, K. Neumann & I. Vogelsand, *Network Interconnection in the Domain of ONP: Study for DG XII of the European Commission* 69 (1994), *quoted and discussed* in G.W. Brock, *Incremental Cost of Local Usage* (CC Docket 94-54, March 16, 1995).

[8/] *See* Implementation of Sections 3(n) and 332 of the Communications Act, Regulatory Treatment of Mobile Services, 9 F.C.C. Rcd. 1411, ¶¶ 227-234 (1994); Need to Promote Competition and Efficient Use of Spectrum for Radio Common Carrier Services, Declaratory Ruling, 2 F.C.C. Rcd. 2910 (1987).

of the minimal actual costs of interconnection between the customers on each side of a telephone call, each of which benefits from the call.[9/]

Bill and keep also is the economically rational solution to the need for an effective interim policy. Any effort to craft a cost-based system would be doomed to failure and create a wasteful, delay-ridden and inefficient regulatory morass because of the virtual impossibility of accurately capturing and accounting for costs. Systems based on establishing cost allocations would generate administrative expenses that approach the cost of carrying traffic — carriage of an average call costs only $0.002 per minute, an amount that we believe would be nearly offset by the expense of creating systems to track those costs (and likely more than offset if the regulatory costs of implementing a cost-based system are taken into account).[10/] Because of the expense of cost measurement, the actual economic cost of a bill-and-keep system is near zero. Most of the network costs in question, moreover, are not traffic-sensitive, further indicating that the cost demands of implementing a bill-and-keep system are minimal.

The Commission also must recognize that its decision here will establish not only the parameters of a carrier-to-carrier relationship. Just as importantly, the Commission's decision will have implications for overall consumer welfare in the United States. In addition to the obvious benefits of creating a market that is capable of competition, the Commission's decision here can eliminate above-market interconnection charges. In eliminating a

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[9/] *See* Washington Utilities & Trans. Comm'n v. U S West Communications, Inc., 1995 Wash. UTC LEXIS 47, *75 (Washington Utilities and Transportation Comm'n, 1995) ("[b]ill and keep is not a system of interconnection 'for free.' Bill and keep is compensatory. There is a reciprocal exchange of traffic in which each company receives something of value").

[10/] *See infra* pages 8, 19-20 for a discussion of engineering studies based on the LECs' own data establishing the costs of call carriage.

mechanism that results in the imposition of artificial and unfair monopoly rents, the Commission will benefit not only CMRS subscribers but also all consumers who pay hidden charges based on above-market telecommunications costs.[11/]

Finally, we urge the Commission to make and implement this decision quickly. PCS licensees need certainty as they engineer, construct and launch their networks, and the terms and conditions upon which they will interconnect with local exchange carriers are crucial to every step of this process.[12/] We applaud the Commission's decision not to delay this proceeding until implementation of the general interconnection provisions of the Telecommunications Act of 1996 (the "1996 Act").[13/] Nothing in the 1996 Act should disturb the Commission's consideration of the issues raised in this proceeding; indeed, Congress generally excluded CMRS providers from the provisions of the 1996 Act.[14/] We urge the Commission to follow the intent of Congress and stay the course despite the opposition it will face from incumbents seeking to retain control of their lucrative but competition-stifling telecommunications bottlenecks.

[11/] *See infra* pages 21-23.

[12/] The need for certainty and an early decision arises not only because PCS licensees must know the parameters of their interconnection with monopoly carriers, but also because PCS systems may be engineered differently to compete in the residential market. For example, if the Commission were to decide against "bill and keep" interconnection and PCS becomes solely a niche or "add on" mobile service rather than an eventual substitute for the local exchange, PCS licensees will engineer for less capacity than would be necessary for systems that would bear residential-load traffic. If, however, the Commission makes a pro-competitive decision here, systems likely will be built to serve the increase in traffic that would result from being able to serve the local exchange market.

[13/] Pub. L. No. 104-104, 110 Stat. 56 (Feb. 8, 1996).

[14/] *See* New Sections 3(44), 251(b) and 253(e) of the Communications Act of 1934, as added by the 1996 Act.

II. COMPENSATION FOR INTERCONNECTED TRAFFIC BETWEEN LECS AND CMRS PROVIDERS' NETWORKS

In establishing a mechanism for CMRS interconnection, the Commission has an obligation to craft a method that actually will work in practice — one that is simple to implement and administer and will not lead to disputes when it is in operation. It would be extraordinarily risky, both for the industry and the Commission, to craft a staff-intensive scheme that would require an army of accountants, economists and enforcement staff in these times of fiscal constraints and intense demands on the Commission's resources. In any such scheme, LECs would use their staggering resources to mount a battle of economists and statisticians, or at least delay the outcome long enough to injure consumer welfare.

For this reason, a bill-and-keep system is the correct choice. Bill and keep provides for fair and efficient interconnection, as we will discuss below, and also meets the practical demands of day-to-day operation. The burden of conducting detailed and expensive studies necessary to administer alternative cost-based systems would fall not only on the carriers (thus driving up their costs, which ultimately would be passed on to consumers) but also on the Commission as it designed, implemented and enforced these complex systems and assessed the inevitable carrier complaints.

It also must be kept firmly in mind that the Commission here is crafting an *interim* standard that must be deployable immediately. It would make no sense to demand that the same course of cost studies that have taken decades to flesh out in the interexchange context (with varying degrees of success) be imported to the dynamic and quickly evolving CMRS market. Moreover, systems based on cost studies would be unnecessary because studies based on the Bell operating companies' own data suggest that a bill-and-keep system is an effective proxy for the actual costs of terminating traffic vs. the costs of measuring and

administering cost compensation schemes. According to parallel engineering analyses submitted to the California Public Utilities Commission and Massachusetts Public Utilities Commission by Pacific Bell/GTE and New England Telephone, respectively, the actual incremental cost to carry traffic is $0.002 per minute.[15/] Any regime based on cost measurement would need to vary by system, by time of day, by technology, and by dozens of additional factors. The expense of creating and administering such a system undoubtedly would approach the very costs it would attempt to measure.[16/] And even assuming that it would be possible to create such a system on an interim basis (which we believe would be impossible), many of the captured costs would be irrelevant because the network pieces at issue are, in the main, not traffic-sensitive.

The Commission also has an obligation to craft a solution that recognizes that CMRS networks are co-carriers to LEC networks; they are not mere adjuncts to the local loop that depend upon LEC networks for their functionality. The *Notice* is flawed in its assumption that LEC networks inevitably have greater functionality than CMRS networks. As the diagram of APC's network demonstrates, PCS networks can have the same degree of functionality as do LEC networks.[17/] PCS networks utilize sophisticated digital switching

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[15/] *See* G.W. Brock, *Incremental Cost of Local Usage* (CC Docket 94-54, March 16, 1995), *discussing* R.E. Park, *Incremental Costs and Efficient Prices with Lumpy Capacity: The Two Product Case* (Rand Corporation, 1994) (California analysis) *and* L.J. Perl & J. Falk, *The Use of Econometric Analysis in Estimating Marginal Cost* (Massachusetts analysis).

[16/] It is instructive that the 1996 Act does not focus on costs in its provisions dealing with non-CMRS interconnection issues. *See* 1996 Act, §§ 3(44); 251(b); 253(e). It also should be noted that LECs would not be "damaged" by the interim application of bill and keep precisely because net costs are so near zero — the very minor costs of carrying CMRS traffic would be very nearly offset by the administrative burden of tracking those costs.

[17/] *See* Appendix A to Separate Comments of APC.

and signalling systems and can be geographically co-extensive with local exchange systems.[18/] As co-carriers operating systems with parallel functionality to LEC networks, CMRS providers are entitled to a fair, competitive and reciprocal compensation regime.

[18/] Of course, the time and expense necessary to replicate the capacity and pervasiveness of landline networks will delay CMRS providers from providing full competition to LECs; whether CMRS can actually be a replacement for part of the LECs' service remains to be seen, and numerous regulatory factors, beyond call termination, are relevant to that determination. Another critically important factor will be the decision the Commission makes in its docket considering clarifications to the microwave relocation rules; unless PCS licensees can relocate microwave users efficiently and fairly, PCS licensees in many markets will have insufficient spectrum to launch competitive systems. *See* Comments of the Sprint Telecommunications Venture (WT Docket 95-157, Nov. 30, 1995).

A. COMPENSATION ARRANGEMENTS

1. Existing Compensation Arrangements

State commissions find that negotiated compensation agreements among neighboring LECs, not surprisingly, utilize bill-and-keep principles,[19] and state commissions increasingly are ordering the use of bill and keep to encourage new entrants and competition.[20] Bill and keep is a common-sense, elegant solution that reflects the plain economic fact that both parties to a telephone call benefit from that communication, regardless of whether they are on the calling or receiving end of the communication. Commercial providers of Internet services, for example, chose a bill-and-keep arrangement as an industry standard in 1991 precisely because they were of essentially equal status, each

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[19] *See, e.g.*, Issues Related to the Continued Provision of Universal Service, 1995 N.Y. PUC LEXIS 70, *19 (N.Y. Pub. Serv. Comm'n, March 8, 1995) ("[n]one of these agreements provide for charges to terminate local traffic; in essence, each carrier terminates the other's local traffic at no charge"); City Signal, Inc., 159 P.U.R.4th 532, 1995 Mich. PSC LEXIS 32, *30 (Mich. Pub. Serv. Comm'n 1995) ("LECs in Michigan do not compensate each other for terminating local or EAS calls. Instead, they have a 'bill and keep' arrangement, the rationale being that the traffic between the respective companies is roughly equal, so that mutual billing would net out to zero").

[20] *See, e.g.*, Electric Lightwave, Inc., Order No. 96-021, P.U.R. 4th, slip op. (Oregon Public Utility Commission, January 12, 1996) (the "Commission finds that compensation arrangements for the exchange of local and Extended Area Services should be based on bill and keep arrangements"); MFS Intelenet of Pennsylvania, Inc., 1995 Pa. PUC LEXIS 87, *6, *97, *142 (Pennsylvania Public Utility Commission, October 4, 1995) (upholding order that LEC and new competitor "shall, at least initially, use in-kind compensation (also referred to as 'bill and keep') for termination of each other's local calls with neither paying the other a termination charge"); Order Instituting Rulemaking on the Commission's Own Motion Into Competition for Local Exchange Service, 1995 Cal. PUC LEXIS 966, *8 (1995) ("we adopted a 'bill-and-keep' approach for dealing with call termination between the LECs and CLCs as an interim measure to become effective January 1, 1996"); Washington Utilities & Trans. Comm'n v. U S West Communications, Inc., 1995 Wash. UTC LEXIS 47, *6 (Washington Utilities and Transportation Comm'n, 1995) ("Commission orders GTE to interconnect with USWC and other incumbent LECs . . . on a bill and keep basis").

provider needed access to the others' subscribers, and providers recognized that an exchange of traffic conferred an economic benefit on more than one party.[21]

CMRS providers do not have economic power even approaching that of monopoly LECs, and bill and keep thus has not been utilized in LEC-CMRS interconnection. The *Notice*'s statement that "existing general interconnection policies may not do enough to encourage the development of CMRS, especially in competition with LEC-provided wireline service" (¶ 2) is a staggering understatement. As one commentator has summarized the economic conditions at issue here, "if there are no regulatory controls on compensation for interconnection, the monopolist of part of the market can extend its monopoly power to the entire market."[22] Under current "compensation arrangements," LECs can impose inflated charges to terminate traffic on their bottleneck systems as a way of extracting monopoly rents and preventing CMRS providers from ever challenging the local exchange monopoly.

Under a typical agreement, for example, a LEC will imposes charges totalling some three cents per minute simply for terminating traffic on its system; for the traffic that will run from the LEC to the PCS carrier, the PCS carrier will receive *nothing*.[23] Assuming

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[21] *See* G.W. Brock, *Price Structure Issues in Interconnection Fees* at 1-2 (CC Docket 94-54, March 30, 1995). As the author notes, the Internet market provides an excellent example of "a competitive network of networks" in which "the interexchange of traffic among [networks] was of mutual benefit. . . ." *Id.* at 1. The same eventually should be true of co-carrier networks attempting to serve the local exchange, but only if federal policy permits competition on a fair basis.

[22] G.W. Brock, *Interconnection and Mutual Compensation With Partial Competition* (CC Docket 94-54, 1995).

[23] As described in more detail earlier, APC's traffic pattern is approximately 50-50 — that is, about half of the traffic on APC's system results from PCS-to-wireline calls and about half results from wireline-to-PCS calls. Traditional cellular arrangements have been premised on an assumption that calling patterns favor LEC-to-cellular by a substantial amount. *See* Letter from Alan Ciamporcero, *supra* n.4 (suggesting that 94 percent of traffic is LEC-to-cellular).

a typical residential telephone subscriber uses only about 400 minutes per month, the interconnection charges alone to provide this service via PCS would run to $12.00 — an amount similar to the total bill that a subscriber typically would incur on the LEC's network. And this termination charge is only one element of the package of costs LECs impose upon CMRS providers; most LECs also impose significant charges for call set-up and transport.

APC's own interim "agreement" with Bell Atlantic provides a compelling case in point. This agreement is described in detail in APC's separate comments (pp. 4-7) and is starkly asymmetrical in nature. It demonstrates that even a PCS provider that can actually demonstrate traffic parity, as APC has, cannot achieve a balanced interconnection agreement whatever market theorists might suggest.

Accordingly, the Commission must resist the misconception, suggested by some LECs, that current LEC-CMRS arrangements are effective and thus that the "marketplace solution" is to continue requiring "private negotiations." In fact, these arrangements passed the entirety of the LECs' costs to CMRS providers, which, in turn, were forced to impose these charges on their customers in the form of higher consumer costs. Cellular expanded despite this inefficient and inequitable system because (a) cellular carriers traditionally were content to serve a relatively high-end market; (b) the majority of cellular carriers are, in fact, affiliates of local exchange carriers, either in-market or out-of-market, and thus had a direct economic stake in perpetuating the interconnection principles that artificially protected their wireline monopolies; and (c) the cellular duopoly and the early public acceptance of cellular as a relatively high-cost service did not provoke sufficient downward price pressure to penetrate the residential market, or even to provide incentives for carriers to combat

interconnection costs to lower prices in competition with an opposing cellular provider.[24/] With the introduction of third, fourth, fifth and even more CMRS competitors in local markets, those days are over.

CMRS carriers and their customers no longer can absorb these inflated costs. Spirited competition by five or more CMRS providers will provoke downward price pressure and the above-market monopoly rents represented by economically unjustified interconnection costs will become an obvious impediment to competition. In addition, the current asymmetric system will become increasingly unfair as PCS implements its consumer marketing vision and as traffic flows continue to shift toward parity. APC, for example, provides the first minute of all incoming calls without charge and offers integrated voice mail for all subscribers, policies that result in termination of virtually all calls and an end to subscriber reluctance to give out telephone numbers. As calls to the PCS network begin to approach parity with those from the PCS network, the monopoly rents imposed by LEC interconnection charges become a windfall that can no longer be tolerated.

[24/] *See* Implementation of Sections 3(n) and 332 of the Communications Act, Regulatory Treatment of Mobile Services, 9 F.C.C. Rcd. 1411, ¶ 138 (1994) ("the record does not support a conclusion that cellular services are fully competitive"); *see generally* U.S. General Accounting Office, *Telecommunications: Concerns About Competition in the Cellular Telephone Service Industry* (1992) (report to Congress finding insufficient competition in cellular duopoly).

2. General Pricing Principles

The Commission has persuasively established the bases for adopting an interim bill-and-keep interconnection solution. We agree with the Cellular Telecommunications Industry Association and the Personal Communications Industry Association that this is the appropriate and economically sound interim resolution. In suggesting that this system would apply only to local switching and call termination, however, the *Notice* stops short of applying the principle of bill and keep to the entirety of the interconnection relationship because of its incorrect understanding of the relationship between LECs and CMRS carriers. We urge the Commission to extend the bill-and-keep principle to all elements of network interconnection and require carriers to share the costs of dedicated interconnection facilities.

a. Fundamental Principles

The general pricing principles discussed in the *Notice* may have a place in considering certain other non-network carrier relationships. These alternative proposals, however, are entirely inapplicable here, where the Commission must select an interim solution for interconnection between co-carriers that operate networks with equivalent functionality. The system elements of a modern CMRS provider and a LEC are essentially identical — both have transmission capability; both have switching capability; both have transport capability; and both deliver traffic to a tandem for routing to other carriers.[25/] This structure refutes the *Notice*'s apparent assumption that LECs have all the transport and tandem functionality and bear all those expenses, and that CMRS providers have none. Because *each* carrier has transport and tandem functionality and *each* carrier incurs transport costs, the bill-and-keep principle should not be limited to end-office costs. Transport, like local switching and call

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[25/] *See* Appendix A to Separate Comments of APC.

termination, should be subject to the bill-and-keep "recover your own costs" principle (as we discuss at pages 27-29 below).

b. Recovering Overhead and Shared Costs

It would be inappropriate to apply the pricing principles discussed in the *Notice* to craft an interim LEC-CMRS interconnection policy. The LEC costs at issue are equivalent to the costs that a CMRS provider incurs to provide the same essential service: termination or origination of a local telecommunications service. The Commission also must recognize (relying, in part, on its difficult experience with expanded interconnection) the capacity of monopoly providers to manipulate overhead loadings and cost studies to recover super-competitive rates.

i. LRIC Method. Although we recognize the historical and economic background for looking to long-run incremental costs in assessing rate levels, we urge the Commission to avoid adopting such a burdensome and costly system as an interim solution here. The administrative burden of considering incremental costs is tremendous, as the Commission recognizes (*Notice*, ¶ 48); the cost differential here, if any, is clearly minimal; and it is particularly difficult to apply long run incremental cost methodology in declining-cost industries such as the LEC and CMRS industries. All of these factors militate against the use of an LRIC method as an interim solution.

ii. Ramsey Rule. Applying the so-called "Ramsey rule" — that is, allocating shared costs and overhead among services in an inverse relationship to the sensitivity of demand for each of the services — also would be extraordinarily burdensome and unworkable as applied to interim LEC-CMRS interconnection. Application here would impose a higher percentage of shared costs and overhead on those least able to find alternative providers, a particularly perverse result that would be especially troublesome in the early years after PCS launch

when no effective alternatives to LEC interconnection exist. The Ramsey approach was not, as the Commission concedes, crafted for markets subject to potential competition but for monopoly markets; it certainly was not intended as an interim solution. It is inapplicable here by its own terms, and adopting it would disserve the Commission's goals.

iii. Specified Allocator. Though a "specified allocator" to guide the allocation of costs might be relatively easy to administer, it also would have perverse effects when applied to the CMRS-LEC context. It would impose high extraneous costs on heavy users — punishing successful carriers, in effect, for their success — and those high costs would deter exchange of traffic and thwart the Commission's ultimate objectives in establishing an interim policy.

iv. Efficient Component Pricing Rule. The so-called "efficient component pricing rule" is perhaps the most ill-suited proposal of all. It would permit LECs to be completely insulated from competition — LECs could recover from their competitors not only the LECs' costs but the monopoly rents they have foregone by finally having to face competition. This approach would raise a substantial barrier to competitors and lock in the incumbent LECs' monopoly advantage on a permanent basis. Enshrining and perpetuating monopoly-level profits in this manner would be unprecedented, blatantly discriminatory in favor of entrenched incumbents, and contrary to the strong public interest in encouraging spirited price and service competition.

v. Cost-Based Pricing. The option of "cost-based pricing" also suffers from enormous administrative costs that would be incurred by both LECs and CMRS providers, and it simply would be impossible to establish such a system for interim interconnection relationships. The notion that costs can be established with any accuracy without extraordinarily expensive procedures has not been established; the proposition that such

procedures would even be possible on an interim basis, we believe, cannot be established. The Commission's experience in implementing expanded interconnection regulations highlights the difficulty in reasonably allocating joint and common costs.[26/] The exercise, moreover, would not be worth the effort it would require because both LEC customers and CMRS customers derive equal benefit from a LEC-CMRS or CMRS-LEC connection; bill and keep thus provides a more appropriate recognition of the benefits of this relationship. The exercise is, at best, enormously time-consuming and resource-intensive; time and resources are two commodities that are in short supply both at the Commission and in the CMRS industry, and they could not in any event be brought to bear on the process of setting interim interconnection rates.

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In short, Sprint Spectrum and APC do not believe that any of the alternative approaches the *Notice* has identified is feasible as an interim solution. The best attribute of all five alternative approaches considered by the *Notice* is that they highlight the practicality and fairness of the Commission's preferred option of bill and keep.

[26/] *See* Expanded Interconnection with Local Telephone Company Facilities, 7 F.C.C. Rcd. 7369 (1992), *recon.*, 8 F.C.C. Rcd. 127 (1992), *further recon.*, 8 F.C.C. Rcd. 7341, *rev'd in part sub nom.* Bell Atlantic Tel. Cos. v. Federal Communications Comm'n, 24 F.3d 1441 (D.C. Cir. 1994).

c. Peak-Load Pricing

The Commission also should not use peak-period analysis in crafting an interim solution because of the many complexities and variations necessary to utilize such an approach over a diverse array of CMRS systems. If the Commission does decide to utilize peak-period analysis, it should take care to base its analysis on the actual peak period for CMRS providers and not simply base its analysis on the current wireline model. It also must recognize that different types of CMRS providers may have different peak periods and that peaks may vary from market to market.[27] In all, we agree with the Commission's assessment that there are "practical problems in implementing a peak sensitive pricing system" (¶ 23) and urge that the Commission not adopt this approach.

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[27] Clearly, it would make no sense to define "peak" based on any particular carrier's "peak pricing" plans — these plans are based largely on marketing considerations rather than any consideration of traffic over interconnected landline facilities.

3. Pricing Proposals

a. Interim

Sprint Spectrum and APC strongly urge the Commission to adopt a bill-and-keep system for interconnection. Under this system, each carrier will recover its own costs for terminating traffic that is delivered to it. Because CMRS providers and LECs operate networks that are parallel in terms of functionality,[28] because LEC customers and CMRS customers derive equal benefit from a LEC-CMRS or CMRS-LEC connection, and because the traffic between LECs and emerging CMRS networks has the potential of following APC's pattern of evenly divided traffic, it is fair, fitting and proper that each network should bear its own costs.[29] LECs recognize these principles by implementing bill-and-keep arrangements among themselves.[30] There no longer is any technical, economic or policy justification for perpetuating a system under which LECs are permitted to impose above-cost expenses on CMRS subscribers by exploiting their control over bottleneck facilities.

The LECs will argue that bill and keep constitutes a heavy burden upon them because of the historical LEC-cellular traffic pattern. The supposed 94%-6% cellular traffic pattern

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[28] *See* Appendix A to Separate Comments of APC (system diagrams establishing that PCS system has equivalent technical functionality to LEC network for purposes of interconnection).

[29] In adopting the 1996 Act, Congress embraced the "carrier-recovers-its-own costs" principle. *See* Section 251(b) of the Communications Act of 1934, as added by the 1996 Act.

[30] *See, e.g.*, Issues Related to the Continued Provision of Universal Service, 1995 N.Y. PUC LEXIS 70, *19 (N.Y. Pub. Serv. Comm'n, March 8, 1995) ("[n]one of these agreements provide for charges to terminate local traffic; in essence, each carrier terminates the other's local traffic at no charge"); City Signal, Inc., 159 P.U.R.4th 532, 1995 Mich. PSC LEXIS 32, *30 (Mich. Pub. Serv. Comm'n 1995) ("LECs in Michigan do not compensate each other for terminating local or EAS calls. Instead, they have a 'bill and keep' arrangement, the rationale being that the traffic between the respective companies is roughly equal, so that mutual billing would net out to zero").

does not, however, hold in all CMRS networks; in APC's network, which we believe will be typical, traffic is evenly divided. But even putting newer traffic patterns aside, the Commission need not be concerned that a system of bill and keep would harm LECs because LECs can — and, indeed, should — recover the minuscule cost of terminating calls from their own subscribers. And, similarly, the Commission need not be concerned with harming LEC subscribers because the past system has resulted in a large windfall to wireline subscribers at the cost of CMRS subscribers — even though landline subscribers benefit from communicating with CMRS customers, landline subscribers rarely, if ever, must pay for that benefit. Bill and keep simply permits costs to more closely reflect the value that each party brings to the relationship. It is fair, equitable and efficient for CMRS and LEC subscribers alike.

i. Bill and Keep is Economically Efficient as an Interim Solution. Bill and keep is a classic interim solution — it can be implemented quickly, without the need for the Commission and carriers to create vast staffs of accountants and economists; it will be simple to administer and enforce; and it will be elegant and effective in operation. It creates the correct set of economic incentives for both LECs and CMRS providers. Because neither party will have the capability of manipulating an entitlement to payments by terminating calls, this system encourages both parties to keep termination costs as close to zero as possible. It also decreases incentives for uneconomic manipulation of traffic and thus will push traffic toward balance, an eventuality that solves not only the vexing problem of fair interconnection but also eliminates the potential for a LEC discriminating in favor of its own CMRS affiliate.

There is no cost risk in implementing an interim bill-and-keep system because the actual costs of terminating traffic is extremely low. According to LECs' own internal

records, actual termination costs, on average, are no greater than $0.002 per minute, an amount that likely is near the expense of implementing and administering a cost-based system.[31/] The *Notice* is well grounded in finding that the compensation rate should be zero because that amount would be administratively efficient; it would be irrational indeed to impose an alternative system where the costs of administering that system would be close to the cost of the actual behavior that system seeks to measure.

Bill and keep also is economically efficient because the traffic pattern between LECs and CMRS providers does, in fact, have the potential to be evenly divided. APC's traffic pattern, for example, is roughly balanced between calls that originate with LEC subscribers and terminate on APC's system and calls that originate with APC subscribers and terminate on the LEC's system. It would be enormously inefficient to construct an expensive and administratively complex cost-measurement system when the net result of that system would be, effectively, zero — each party would end up paying the other roughly the same amount. The costs of implementing and administering such an inefficient system would, in the end, be borne by consumers. Because traffic is likely to be roughly in balance, this sort of complex and time-consuming system is not needed; the same result can be achieved much more efficiently by adopting bill and keep.[32/]

[31/] *See* G.W. Brock, *Incremental Cost of Local Usage* (CC Docket 94-54, March 16, 1995).

[32/] By "traffic balance," we mean that over a period of time the available data shows a roughly equivalent exchange of traffic. It would be inappropriately rigid and arbitrary, for example, to treat "balance" as 50.00 percent and find "imbalance" at 41.99 percent. There always will be a variety of forces, such as short-term marketing plans, natural disasters, and seasonal factors that will shape traffic flow and lead to temporary distortions. A workable and flexible concept of "roughly equivalent balance" should be used when the Commission eventually makes its long-term decision about whether to retain bill and keep beyond an interim solution.